

1 ENERGY AND ENVIRONMENT CABINET

2 Department for Environmental Protection

3 Division of Water

4 (Amendment)

5 401 KAR 8:100. Design, construction and approval of facilities and approval timetable
6 for 401 KAR Chapter 8.

7 RELATES TO: KRS 151.634, 224.10-110[, ~~224.60-100~~], 322.020(1), 322.340, 40 C.F.R.
8 141[~~141.5, 141.110-111~~]

9 STATUTORY AUTHORITY: KRS 224.10-100[~~224.10-100(2)~~], 224.10-110, 224.10-
10 220, 40 C.F.R. 141.5[, ~~141.110-111~~], 142.10, 142.16, 42 U.S.C. 300j-26

11 NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-110 (2), (3), and (4)
12 require the cabinet to enforce administrative regulations promulgated by the secretary for the
13 regulation and control, including construction and operation of facilities, of the purification of
14 water for public and semipublic use. KRS 224.10-220 requires the cabinet to establish timetables
15 for the issuance of all permits by the cabinet, except those permits for which a timetable is set
16 out by statute. This administrative regulation establishes design plan requirements for the
17 construction of new and expanded facilities that deliver potable water for public or semipublic
18 use and establishes requirements for submitting plans and specifications for modifications to
19 existing facilities and a timeline for cabinet review and approval or disapproval of plans. There is
20 not a federal regulation that deals with this subject matter; therefore, this administrative

1 regulation is not more stringent than federal requirements.

2 Section 1. Preliminary Engineering Report. (1) A preliminary engineering report for a
3 proposed new facility or a modification to an existing facility shall be prepared by a professional
4 engineer and submitted to the cabinet.

5 (a) Except as established in paragraph (b) of this subsection, a supplier or potential
6 supplier of water shall submit the preliminary engineering report to the cabinet before entering
7 into a financial commitment for or initiating construction of a new public water system or
8 increasing the capacity of an existing public water system.

9 (b) A preliminary engineering report shall not be required for:

10 1. A semipublic treatment facility; or

11 2. Construction, extension, or improvement of a distribution system.

12 (c) The preliminary engineering report shall comply with 40 C.F.R. 141.5, Siting
13 requirements.

14 (d) An applicant for a proposed new public water system or modification to an existing
15 public water system shall not locate a proposed surface water intake five (5) miles or less
16 downstream from the discharge of an existing wastewater treatment plant. The cabinet may issue
17 a variance to the five (5) mile limitation established in this paragraph if the applicant
18 demonstrates that the:

19 1. Water quality at the proposed intake located five (5) miles or less downstream of a
20 wastewater treatment plant will not be significantly affected by the discharge from the
21 wastewater treatment plant; and

22 2. The proposed new public water system or modification to an existing public water
23 system has the capacity to treat the source water in order that finished water will be in

compliance with 401 KAR Chapter 8.

(2) The preliminary engineering report shall include~~[contain the following information]~~:

(a) The name of the applicant and of the owner of the plant;

(b) A map that shows the location of the proposed facility;

(c) The proposed source of water and the quantity available, with the location of the intake or wellhead identified by latitude and longitude in degrees, minutes, and seconds;

(d) An analysis of the water from the proposed source for contaminants regulated pursuant to 401 KAR Chapter 8, performed by a certified laboratory;

(e) A detailed description of the proposed facility;

(f) A detailed flow diagram of the proposed facility;

(g) A demonstration that the intake or intakes comply with Section 1(d) of this administrative regulation;

~~(h)~~~~(g)~~ Pilot study conclusions, if conducted; and

~~(i)~~~~(h)~~ An operation plan, including:

1. Anticipated load;

2. Hours of operation;

3. Area served; and

4. Number and certification of operational staff.

(3) Preliminary engineering report approval.

(a) The preliminary engineering report shall be consistent with the requirements of:

1. Recommended Standards for Water Works, 2012 Edition, A Report of the Water Supply Committee of the Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers, 2012;

1 2. General Design Criteria for Surface and Ground Water Supplies, April 2010; and

2 3. Section 1(d) of this administrative regulation~~[the materials incorporated by reference in~~
3 ~~Section 9(a) — (c) of this administrative regulation]~~.

4 (b) Upon receipt and review of the preliminary engineering report, the cabinet shall either
5 approve the preliminary engineering report or return it to the applicant for revision.

6 1. Final plans shall not be submitted until the preliminary engineering report has been
7 approved.

8 2. Approval of the preliminary engineering report shall not constitute final approval for
9 construction.

10 3. A proposed change in the preliminary engineering report shall be submitted to the
11 cabinet and approved prior to incorporation in the final plans.

12 Section 2. Final Plans and Specifications. (1) Final plans and specifications for the
13 construction or modification of a water treatment plant or a distribution facility shall be
14 consistent with;

15 (a) Recommended Standards for Water Works, 2012 Edition, A Report of the Water
16 Supply Committee of the Great Lakes-Upper Mississippi River Board of State Public Health and
17 Environmental Managers, 2012;

18 (b) General Design Criteria for Surface and Ground Water Supplies, April 2010; and

19 (c) Section 1(d) of this administrative regulation~~[the materials incorporated by reference~~
20 ~~in Section 9(a) — (c) of this administrative regulation]~~.

21 (d)[(a)] If a preliminary engineering report is required pursuant to Section 1 of this
22 administrative regulation, the final plans and specifications shall be consistent with the approved
23 preliminary engineering report.

1 ~~(e)~~~~(b)~~ 1. Plans for the construction or modification of a public water system shall be
2 submitted by the water system or shall be accompanied by a letter from the water system
3 confirming that the water system has reviewed the plans, accepts the design, and has the capacity
4 to and shall provide water service to the project.

5 2. A public water system that purchases water from another public water system shall
6 submit a letter from the providing water system verifying the providing water system has the
7 capacity and shall provide water service to the purchasing water system, including the proposed
8 project if the project will result in:

9 a. Demand for water exceeding eighty-five (85) percent of the purchasers current
10 purchase contract; or

11 b. Increased water demand by the purchaser by 10,000 gallons or more per day.

12 (c) Engineering plans and specifications shall;

13 1. Be submitted to the cabinet~~;~~~~shall~~

14 2. Be prepared by a professional engineer licensed in Kentucky~~;~~~~;~~ and~~shall~~

15 3. Bear the engineer's seal, signature, and date of signature.

16 4.~~[1-]~~ Prior to the construction or modification of a public or semipublic water system,
17 the following documents and fees shall be submitted to the cabinet:

18 a. Two (2)~~Three (3)~~ copies of the plans and specifications or changes thereto, one (1) of
19 which shall be in an electronic format;

20 b. For construction or modification of a distribution system, a complete Construction
21 Application for Drinking Water Distribution, DW-1, (8/2010) form;

22 c. For the construction or modification of a treatment facility, a completed Construction
23 Application for Drinking Water Treatment, DW-2, (8/2010) form;

d. For construction or modification of a semi-public facility, a completed Construction Application for Small Groundwater and Semi-Public Systems, DW-3, (8/2010) form;

e. A map that shows the location of the proposed facility;

f. Hydraulic calculations;

g. Design data and supporting documents necessary for review of the plans and specifications;

h. Chemical and microbiological analyses of a new raw water source if the plans and specifications are for a treatment facility; and

i. The fee required by 401 KAR 8:050.

5.[2-] Construction or modification of a public or semipublic water system shall not begin until the plans and specifications have been approved by the cabinet in writing; and[-]

6.[3-] The front page of the plans shall identify the:

a. Public water system; ~~[-the]~~

b. Owner of the public water system; ~~[-the]~~

c. Public water system's location by city and county; ~~[-]~~ and ~~[the]~~

d. Professional engineer preparing the plans.

(d) The cabinet's review of plans and specifications shall be limited to sanitary features of design and other features of public health significance and shall not include a review of structural, mechanical, or electrical design.

(e) The plans shall be drawn to scale and shall be accompanied by specifications, so as to allow a comprehensive engineering review, and shall include ~~[the following]~~:

1. Plan and sectional views with all necessary dimensions; and

2. A piping diagram in sufficient detail to allow a hydraulic analysis of the system.

1 (2) Approval of final plans.

2 (a) Upon receipt and review of final plans and specifications, the cabinet shall either
3 approve the final plans and specifications in writing or return them to the applicant for revision.

4 (b) If approved, one (1) set of approved plans and specifications shall be returned to the
5 engineer, and one (1) set shall be returned to the water system.

6 Section 3. Construction. (1)(a) During construction, a set of approved plans and
7 specifications shall be available at the job site.

8 (b) Construction shall be performed in accordance with the approved plans and
9 specifications.

10 (2) If the cabinet's representative observes work being performed in a manner that does
11 not conform to the approved plans and specifications, the cabinet shall notify the owner in
12 writing.

13 (3) Unless construction begins within two (2) years from the date of approval of the final
14 plans and specifications, the approval shall expire.

15 Section 4. Final approval of facility. (1) Upon completion of construction, a professional
16 engineer shall certify in writing that the project has been completed in accordance with the
17 approved plans and specifications.

18 (2) A proposed change to the approved plans affecting sanitary features of design shall be
19 submitted to the cabinet for approval in accordance with Section 2 of this administrative
20 regulation.

21 (3) The public water system shall not implement a change to the approved plans without the
22 prior written approval of the cabinet.

23 Section 5. Modifications and extension of service. The cabinet shall not approve a

1 modification of a public water system or an extension of service to one (1) or more customers if
2 the modification or extension of service is likely to result in the water system's inability to supply
3 consistent water service in compliance with 401 KAR 8:010 through 8:510~~[8:600]~~.

4 Section 6. Treatment Techniques. A public water system shall comply with the treatment
5 technique requirements established in 40 C.F.R. 141.110~~[141.10]~~ through 141.111, General
6 requirements and treatment techniques for acrylamide and epichlorohydrin.

7 Section 7. Variance. If plans and specifications deviate from the requirements of this
8 administrative regulation, a written request for a variance shall be submitted with the plans and
9 specifications or preliminary plans.

10 (1) The variance request shall include:

11 (a) A~~[a]~~ description of the reason for the variance request;

12 (b) The basis for the alternate plans or specifications, which shall be supported by current
13 engineering practices; and

14 (c) Other information necessary to support the variance.~~[;]~~

15 (2) A variance shall not be approved if it will not protect public health, water quality, and
16 the environment.

17 Section 8. Approval Timetables. (1) A complete request for approval shall contain all the
18 administrative and technical information required pursuant to 401 KAR Chapter 8, KRS Chapter
19 224, and 40 C.F.R. 141 and 142.

20 (2) (a) Except for the projects established in subsection (2)(b) of this section, the cabinet
21 shall issue its final decision on a request for preliminary or final approval of plans and
22 specification reviews within forty-five (45) calendar days of receipt of the complete request for
23 approval.

1 (b) The cabinet shall issue its final decision on a request for a preliminary or final
2 approval of plans and specification reviews for construction or modification of a water treatment
3 plant within ninety (90) calendar days of receipt of the complete request for approval.

4 (3) Timetable Extensions.

5 (a) If two (2) or more permits for a facility, site, source, construction project, or other
6 entity are required from the cabinet, the cabinet may coordinate the issuance of the permits,
7 establishing different review and action times that shall be accomplished by the cabinet or
8 applicant.

9 (b) If the permits are coordinated, the cabinet shall notify the applicant and indicate the
10 time frames under which the intermediate and final permit actions shall be accomplished.

11 (c) The established time frame for final action shall not exceed the last date for action
12 pursuant to 401 KAR Chapter 8, KRS Chapter 224, and 40 C.F.R. 141 and 142, based on all
13 applications being considered and the filing date of each application.

14 Section 9[8] Incorporation by Reference. (1) The following material is incorporated by
15 reference:

16 (a) "Recommended Standards for Water Works, 2012 Edition, A Report of the Water
17 Supply Committee of the Great Lakes-Upper Mississippi River Board of State Public Health and
18 Environmental Mangers", 2012[Great Lakes — Upper Mississippi River Board of State and
19 Provincial Public Health and Environmental Managers "Recommended Standards for Water
20 Works", 2007];

21 (b) "General Design Criteria for Surface and Ground Water Supplies", April 2010;

22 (c)[~~"Water Policy Memorandum number 84-02, General Guidelines for Conducting~~
23 ~~Stream Studies for Wastewater Discharges Proposed within Five Miles Upstream from Public~~

~~Water Supply Sources, or for the Location of Public Water Supply Intakes within Five Miles
Downstream from Wastewater Discharges", 1984;]~~

(d)] "Construction Application for Drinking Water Distribution", DW-1, 8/2010;


(d)](e)] "Construction Application for Drinking Water Treatment", DW-2, 8/2010; and

(e)](f)] "Construction Application for Small Groundwater and Semi-Public Systems",
DW-3, 8/2010.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright
law, at the Division of Water, 300 Sower Boulevard, Frankfort, Kentucky 40601, Monday
through Friday, 8 a.m. to 4:30 p.m.

(3) "Recommended Standards for Water Works, 2012 Edition, A Report of the Water
Supply Committee of the Great Lakes-Upper Mississippi River Board of State Public Health and
Environmental Managers', 2012, may also be obtained at
<http://10statesstandards.com/waterrev2012.pdf>.

401 KAR 8:100 Design, construction, and approval of facilities and approval timetable for 401 KAR Chapter 8 is approved for filing.



Charles G. Snavely, Secretary
Energy and Environment Cabinet

4/12/2017
Date

PUBLIC HEARING AND PUBLIC COMMENT PERIOD: A public hearing on this administrative regulation shall be held on Thursday, May 25, 2017 at 6:00 p.m. Eastern Time at the Department for Environmental Protection, Training Room C, 300 Sower Boulevard, Frankfort, Kentucky 40601. Individuals interested in being heard at this hearing shall notify this agency in writing by 5 workdays prior to the hearing of their intent to attend. If no notification of intent to attend the hearing is received by that date, the hearing may be canceled. This hearing is open to the public. Any person who wishes to be heard will be given an opportunity to comment on the proposed administrative regulation. A transcript of the public hearing will not be made unless a written request for a transcript is made. If you do not wish to be heard at the public hearing, you may submit written comments on the proposed administrative regulation. Written comments shall be accepted through May 31, 2017. Send written notification of intent to be heard at the public hearing, or written comments on the proposed administrative regulation, to the contact person.

Contact person: Carole J. Catalfo
Internal Policy Analyst, RPPS,
Division of Water, 3rd Floor
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Frankfort, Kentucky 40601
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Fax (502) 564-9003
Email: water @ky.gov (Subject line: "Chapter 8 regulations")

REGULATORY IMPACT ANALYSIS AND TIERING STATEMENT

401 KAR 8:100

Contact Person: Carole J. Catalfo
Phone: (502) 782-6914
Email: water@ky.gov (Subject Line: "Chapter 8 regulations")

(1) Provide a brief summary of:

(a) What this administrative regulation does: This administrative regulation establishes procedures for public and semipublic water systems to submit preliminary and final construction plans to the cabinet for approval, and establishes timeframes for approvals.

(b) The necessity of this administrative regulation: This administrative regulation allows the cabinet to approve or disapprove the plans and specifications for proper construction of public and semipublic water systems, and sets approval and disapproval timeframes.

(c) How this administrative regulation conforms to the content of the authorizing statutes: KRS 224.10-110 requires the cabinet to review and approve or disapprove plans for the construction or modification of water treatment and distribution systems. KRS 224.10-220 requires the cabinet to prescribe timetables for the issuance of all permits by the cabinet, except those permits for which a timetable is set out by statute.

(d) How this administrative regulation currently assists or will assist in the effective administration of the statutes: This administrative regulation establishes procedures and guidelines to allow the cabinet to review, approve, or disapprove plans and specifications for proper construction and modification of public and semipublic water treatment plants and distribution systems.

(2) If this is an amendment to an existing administrative regulation, provide a brief summary of:

(a) How the amendment will change this existing administrative regulation: The amendment incorporates the language of 401 KAR 8:101, which is being repealed, that establishes timeframes for cabinet approval or disapproval of water treatment plants and distribution systems. The amendment increases the amount of time for cabinet approval of plans for system construction and modification from forty-five (45) to ninety (90) days. The amendment corrects references to C.F.R.s, updates the "General Design Criteria for Surface and Ground Water Supplies" to its most recent version, updates references to Materials Incorporated By Reference to make them consistent across 401 KAR Chapter 8, and reduces the number of plans required to be submitted to the cabinet while allowing an electronic version of those plans. The amendment also incorporates the updated language of the "Five Mile Policy" into the regulation rather than incorporation by reference.

(b) The necessity of the amendment to this administrative regulation: This amendment

preserves timelines for cabinet approval or disapproval of water treatment plants and distribution systems and updates one document incorporated by reference. The updated document allows the professional engineering community to use the most current design guidelines for the construction or expansion of water treatment plants and distribution systems. The amendment also reduces the number of plans required to be submitted to the cabinet while allowing an electronic version of those plans.

(c) How this administrative regulation conforms to the content of the authorizing statutes: KRS 224.10-110 requires the cabinet to review and approve or disapprove plans for the construction or modification of water treatment and distribution systems. KRS 224.10-220 requires the cabinet to prescribe timetables for the issuance of all permits by the cabinet, except those permits for which a timetable is set out by statute.

(d) How the amendment will assist in the effective administration of the statutes: The amendments maintain timetables for the cabinet to review and approve or disapprove plans for the construction or modification of water treatment and distribution systems. The amendments allow the professional engineering community to use the most current design guidelines for the construction or modification of water treatment plants and distribution systems. The amendments also reduce the number of plans to be submitted to the cabinet and allows an electronic version for ease and convenience.

(3) List the type and number of individuals, businesses, organizations, or state and local governments affected by this administrative regulation: Currently there are 436 public, 52 semipublic, and 5 bottled water systems in Kentucky.

(4) Provide an analysis of how the entities identified in question (3) will be impacted by either the implementation of this administrative regulation, if new, or by the change, if it is an amendment, including:

(a) List the actions that each of the regulated entities identified in question (3) will have to take to comply with this administrative regulation or amendment: The amendment requires public water systems and engineers to use the latest edition of "General Design Criteria for Surface and Ground Water Supplies" when designing new or modified water treatment and distribution facilities, and submit one (1) hard copy and one (1) electronic copy of plans, rather than three (3) hard copies.

(b) In complying with this administrative regulation or amendment, how much will it cost each of the entities identified in question (3): The amendments will not affect costs of compliance.

(c) As a result of compliance, what benefits will accrue to the entities identified in question (3): Public water systems and engineers will use current design criteria for new or modified water treatment and distribution facilities, submit fewer plans to the cabinet, and have an established time frame for cabinet review and approval or disapproval of plans and specifications.

(5) Provide an estimate of how much it will cost the administrative body to implement this administrative regulation:

(a) Initially: The amendment will not result in additional costs.

(b) On a continuing basis: The amendment will not result in additional costs.

(6) What is the source of the funding to be used for the implementation and enforcement of this administrative regulation: The funding for the implementation and enforcement of this administrative regulation is federal funding under the Safe Drinking Water Act.

(7) Provide an assessment of whether an increase in fees or funding will be necessary to implement this administrative regulation, if new, or by the change if it is an amendment: No increase in fees or funding will be necessary.

(8) State whether or not this administrative regulation established any fees or directly or indirectly increased any fees: This administrative regulation does not establish or increase fees directly or indirectly.

(9) TIERING: Is tiering applied? (Explain why or why not) Yes. This administrative regulation makes distinctions between public and semipublic water systems. This is not a change from the current administrative regulation.

FISCAL NOTE ON STATE OR LOCAL GOVERNMENT

401 KAR 8:100

Contact Person:

Carole J. Catalfo

Phone: (502) 782-6914

Email: water@ky.gov (Subject Line: "Chapter 8 regulations")

(1) What units, parts, or divisions of state or local government (including cities, counties, fire departments, or school districts) will be impacted by this administrative regulation? This regulation applies to public and semipublic water systems. Public water systems are often owned by city governments or organized under county governments.

(2) Identify each state or federal statute or federal regulation that requires or authorizes the action taken by the administrative regulation. KRS 224.10-100, 224.10.110, 224.10-220, 40 C.F.R. 141, 142, 42 U.S.C. 300J-26

(3) Estimate the effect of this administrative regulation on the expenditures and revenues of a state or local government agency (including cities, counties, fire departments, or school districts) for the first full year the administrative regulation is to be in effect.

(a) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for the first year? This regulation will not generate any revenue for local governments.

(b) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for subsequent years? This regulation will not generate any revenue for local governments.

(c) How much will it cost to administer this program for the first year? This regulation will not result in additional costs.

(d) How much will it cost to administer this program for subsequent years? This regulation will not result in additional costs.

Note: If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impact of the administrative regulation.

Revenues (+/-): NA

Expenditures (+/-): NA

Other Explanation: This regulation will not result in additional costs or revenue.

FEDERAL MANDATE ANALYSIS COMPARISON

401 KAR 8:100

Contact Person:

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1. Federal statute or regulation constituting the federal mandate. 40 C.F.R. 141.5, 142.10, 142.16
2. State compliance standards. KRS 224.10-100, 224.10.110, 224.10-220
3. Minimum or uniform standards contained in the federal mandate. 40 C.F.R. 141.5 requires public water systems to notify the state and avoid locating a new or modified facility from sites that are at significant risk from earthquakes, floods, or other disasters which could cause a public water system to breakdown, or within a floodplain of a 100-year flood. 40 C.F.R. 142.10(b)(5) requires states with primary authority to implement and enforce the federal Safe Drinking Water Act to enact regulations that assure that the design and construction of new or substantially modified public water system facilities will be capable of compliance with the State primary drinking water regulations. 40 C.F.R. 142.16(b)(1) requires states with primary authority to implement and enforce the federal Safe Drinking Water Act to enact regulations that include enforceable design and operating criteria for each filtration treatment technology allowed or a procedure for establishing design and operating conditions on a system-by-system basis.
4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements than those required by the federal mandate? No. The federal regulations provide general guidance, while this regulation provides specific requirements and a timeline for submission and approval of plans.
5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements. The federal regulations provide general guidance, while this regulation provides specific, but not stricter, requirements and a timeline for submission and approval of plans.

Detailed Summary of Material Incorporated by Reference

I. This administrative regulation incorporates by reference the “Recommended Standards for Water Works, 2012 Edition, A Report of the Water Supply Committee of the Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers, 2012”. This document is also known as the “Ten States’ Standards”. The amended edition incorporates the most recent engineering design criteria for the construction of water treatment plants and distribution systems.

This document consists of 166 pages.

II. This administrative regulation incorporates by reference the “General Design Criteria for Surface and Ground Water Supplies, April 2010”. This document defines water treatment plant rated design capacity and process redundancy, and establishes design criteria for water that includes water distribution systems, UV disinfection, and membrane technologies.

This document consists of eight (8) pages.

III. This administrative regulation incorporates by reference the “Construction Application for Drinking Water Distribution, DW-1” (8/2010). This form is submitted for drinking water distribution projects and provides the reviewer with information concerning the project in standardized format. The information provided in the application includes customers served, site location, project description, and technical details to evaluate design criteria.

This document consists of four (4) pages.

IV. This administrative regulation incorporates by reference the “Construction Application for Drinking Water Treatment, DW-2” (8/2010). This form is submitted for drinking water treatment projects and provides the reviewer with information concerning the project in a standardized format. The information provided in the application includes customers served, site location, project description, and technical details to evaluate design criteria. This document consists of eight (8) pages.

V. This administrative regulation incorporates by reference the “Construction Application for Small Groundwater and Semi-Public Systems, DW-3” (8/2010). This form is submitted for semi-public drinking water projects and provides the reviewer with information concerning the project in a standardized format. The information provided includes customers served, site location, project description, and technical details to evaluate design criteria. This document consists of two (2) pages.